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10/538,567	06/15/2005	Charles Trushell	US020593	9447

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EXAMINER

HOLLWEG, THOMAS A

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2879

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/538,567	Applicant(s) TRUSHELL, CHARLES	
	Examiner Thomas A. Hollweg	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/15/2005</u> | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.84(u) because, where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG." must not appear. Appropriate correction to the drawing and corresponding correction to the specification is required, such as changing "Figure 1" to "Figure" on page 5 of the specification.
2. The drawings are also objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the arc tube, as claimed in claim 9, must be shown or the feature canceled from the claim. No new matter should be entered.
3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claims 10 and 11 are objected to because of the following informalities:
  - a. Claim 10, the word "to" is omitted between the words "adjacent" and "a"

- b. Claim 11, Two parts are labeled "c)"

Appropriate correction is required.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

6. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

7. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-8, and 10-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 7, 11, 12, and 14-19 of U.S. Patent No. 6,919,679 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other as follows:

- a. Claim 1 is rejected over '679 claim 1 because '679 claim 1 contains all of the limitations of claim 1 except for the limitation that the getter material is comprised of an alkaline earth metal borate or mixtures thereof. This type of

getter material is well known in the art and using an alkaline earth metal borate getter in the device defined by the limitations of '679 claim 1 is considered to be a matter of design choice and would have been obvious to a person having ordinary skill in the art. In the specification, applicant even refers to the getters chosen for this invention as "alternative getter materials" (page 3, line9). It is noted that applicant's specific use of an alkaline earth metal borate getter is not shown to solve any of the stated problems or yield any unexpected result that is not within the scope of the claims of patent '679. Accordingly, the use of this getter compound is considered to be a matter of design choice.

b. Claim 2 is rejected over '679 claims 1 and 12 because '679 claims 1 and 12 together contain all of the limitations of claim 2 except for the obvious design choice of using an alkaline earth metal borate getter, therefore claim 2 is not patentably distinct from '679 claims 1 and 12.

c. Claim 3 is rejected over '679 claims 2 and 12 because '679 claims 2 and 12 together contain all of the limitations of claim 3 except that claim 3 uses an alkaline earth metal borate getter as an obvious design choice alternative to the alkaline metal oxide of zinc oxide used in '679 claim 2. Therefore claim 3 is not patentably distinct from '679 claims 2 and 12.

d. Claim 4 is rejected over '679 claims 3 and 12 because '679 claims 3 and 12 together contain all of the limitations of claim 4 except for the obvious design choice as stated in the rejection of claim 3 above, therefore claim 4 is not patentably distinct from '679 claims 3 and 12.

- e. Claim 5 is rejected over '679 claims 4 and 12 because '679 claims 4 and 12 together contain all of the limitations of claim 5 except for the obvious design choice as stated in the rejection of claim 3 above, therefore claim 5 is not patentably distinct from '679 claims 4 and 12.
- f. Claim 6 is rejected over '679 claims 5 and 12 because '679 claims 5 and 12 together contain all of the limitations of claim 6 except for the obvious design choice as stated in the rejection of claim 3 above, therefore claim 6 is not patentably distinct from '679 claims 5 and 12.
- g. Claim 7 is rejected over '679 claims 2 and 12 because '679 claims 2 and 12 together contain all of the limitations of claim 7 except that claim 7 uses an alkaline earth metal pyroborate getter as an obvious design choice alternative to the alkaline metal oxide of zinc oxide used in '679 claim 2. Therefore claim 7 is not patentably distinct from '679 claims 2 and 12.
- h. Claim 8 is rejected over '679 claims 7 and 12 because '679 claims 7 and 12 together contain all of the limitations of claim 8 except that claim 8 uses an alkaline earth metal pyroborate getter as an obvious design choice alternative to the alkaline metal oxide of zinc oxide used in '679 claim 7. Therefore claim 8 is not patentably distinct from '679 claims 7 and 12.
- i. Claim 10 is rejected over '679 claim 11 because '679 claim 11 contains all of the limitations of claim 10 except for the obvious design choice as stated in the rejection of claim 1 above, therefore claim 10 is not patentably distinct from '679 claim 11.

j. Claim 11 is rejected over '679 claim 14 because '679 claim 14 contains all of the limitations of claim 11 except for the limitation that the getter material is comprised of an alkaline earth metal borate or mixtures thereof. As stated in the rejection of claim 1 above, alkaline earth metal borate getters are well known in the art and using this type of getter in the device defined by the limitations of '679 claim 14 is considered to be an obvious design choice. Therefore claim 11 is not patentably distinct from '679 claim 14.

k. Claim 12 is rejected over '679 claims 15 and 19 because '679 claims 15 and 19 together contain all of the limitations of claim 12 except for the obvious design choice as stated in the rejection of claim 11 above, therefore claim 12 is not patentably distinct from '679 claims 15 and 19.

l. Claim 13 is rejected over '679 claims 16 and 19 because '679 claims 16 and 19 together contain all of the limitations of claim 13 except for the obvious design choice as stated in the rejection of claim 11 above, therefore claim 13 is not patentably distinct from '679 claims 16 and 19.

m. Claim 14 is rejected over '679 claims 17 and 19 because '679 claims 17 and 19 together contain all of the limitations of claim 14 except for the obvious design choice as stated in the rejection of claim 11 above, therefore claim 14 is not patentably distinct from '679 claims 17 and 19.

n. Claim 15 is rejected over '679 claims 18 and 19 because '679 claims 18 and 19 together contain all of the limitations of claim 12 except for the obvious

Art Unit: 2879

design choice as stated in the rejection of claim 11 above, therefore claim 15 is not patentably distinct from '679 claims 18 and 19.

o. Claim 16 is rejected over '679 claim 1 because '679 claim 1 contains all of the limitations of claim 16 except for the limitation that the getter material is effective to react with contaminants present in the lamp to the extent that arc instability after ignition of the lamp is substantially eliminated. The device defined by the limitations of '679 claim 1 is intended to substantially eliminate arc instability after ignition of the lamp (column 2, lines 16-19). Thus the inclusion of getter material to the extent that arc instability after ignition of the lamp is substantially eliminated is an inherent limitation of the device defined by '679 claim 1. Therefore claim 16 is not patently distinct from '679 claim 1.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Both claim 3 (line 1) and claim 4 (line 1) recite the limitation "undercoat layer." There is insufficient antecedent basis for this limitation in the claims.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



Art Unit: 2879

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trushell U.S. Patent No. 5,552,665 in view of Kaduk et al., U.S. Patent No. 3,875,455.

13. With regard to claim 1, Trushell discloses an electric lamp comprising a lamp envelope (3) having an inner surface (15), a means within the lamp envelope for generating ultraviolet radiation, and a layer of luminescent material (17) adjacent to the inner surface of the lamp envelope for generating visible light when impinged by ultraviolet radiation (col. 2, lines 41-46 & col. 4, lines 44-60). Trushell further discloses a base-coat layer (16) between the inner surface of the lamp envelope and the layer of luminescent material for reflecting ultraviolet radiation which has passed through the layer of luminescent material back into the luminescent material for increasing the visible light output of the luminescent material (col. 2, lines 46-52). The base-coat layer comprises a particulate non-fluorescent oxidic material, aluminum oxide (col. 4; lines 55-68). Trushell does not expressly disclose a getter material on the surface of a base-coat layer which reacts with contaminants present in the lamp, where the getter material comprises an alkaline earth metal borate or mixture thereof.

14. Kaduk, however, discloses a getter compound disposed on the surface of a reflective layer in a discharge lamp, where the getter compound comprises an alkaline earth metal compound (col. 2, lines 36-41 & 63-67). The alkaline earth metal getter disclosed in Kaduk is an oxide getter (MgO) well known in the art. It would have been obvious at the time of invention to a person having ordinary skill in the art to use the

Art Unit: 2879

alkaline earth metal getter on the surface of the reflective layer, as taught by Kaduk, in the lamp disclosed by Trushell. The motivation would have been to improve the lamp brightness, brightness maintenance, brightness uniformity (Kaduk, col. 4, lines 45-49). Trushell and Kaduk are analogous art because they are from the same field of fluorescent discharge lamps.

15. Further, alkaline earth metal getter compounds and specifically alkaline earth metal borate compounds are well known in the art. The use of an alkaline earth metal borate getter compound in the lamp disclosed by Trushell, as modified by Kaduk, is considered to be a matter of design choice and would have been obvious to one of ordinary skill in the art. It should be noted that adding a getter compound to a sealed lamp assembly is an old and well known method in the art for improving performance by eliminating impurities. Applicant's specific use of an alkaline earth metal borate getter is not shown to solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Accordingly, the use of this getter compound is considered to be a matter of design choice.

16. With regard to claim 2, Kaduk teaches the formation of the getter material from the thermal decomposition of a getter precursor material (getter material mixed with binder) during lehring (col. 2, lines 63-67 & col. 3, lines 59-62).

17. With regard to claim 3, Trushell teaches a reflective layer comprising a particulate aluminum oxide (col. 6, lines 19-22). When combining the getter compound taught by Kaduk to the reflective layer disclosed in Trushell it would have been obvious to a person of ordinary skill in the art to use the method taught by Kaduk to apply

Art Unit: 2879

gettering material to a reflective layer. Kaduk teaches exposing the particulate aluminum oxide to the getter precursor material in an effective amount during lehring (col. 2, lines 63-67 & col. 3, lines 59-62). Kaduk further teaches that the getter layer is contiguous (col. 2, lines 43-45).

18. With regard to claim 4, Trushell and Kaduk both teach that the undercoat layer is sintered prior to the sealing of the envelope.

19. With regard to claims 5 and 7, it is old and well known in the art that borates and pyroborates of magnesium, calcium, strontium, barium, and mixtures thereof are effective getter compounds. Using this type of getter compound in the lamp taught by Trushell, as modified by Kaduk, is considered to be a matter of design choice and would have been obvious to one of ordinary skill in the art.

20. Claim 6 recites the process of forming the sintered mixture, which is not germane to the patentability of the lamp itself. Therefore claim 6 has not been given patentable weight.

21. With regard to claim 8, Kaduk discloses that the phosphor layer comprises halophosphate phosphor (col. 3, 56-59).

22. With regard to claim 9, as a means for generating ultraviolet radiation, Trushell discloses the use of an arc tube disposed within the lamp envelope, filled with ionizable material and a rare gas, and a pair of discharge electrodes between which a discharge takes place during lamp operation (col. 7, lines 11-37).

23. With regard to claim 10, as a means for generating ultraviolet radiation, Trushell discloses a filling of ionizable material and a rare gas within the lamp envelope and a

Art Unit: 2879

pair of discharge electrodes each adjacent to a respective sealed end of said discharge vessel (col. 4, lines 45-61).

24. With regard to claim 11, Trushell discloses a low pressure mercury vapor fluorescent lamp comprising a tubular light transmissive lamp envelope (3) having opposing sealed ends and an inner tubular surface (15), a filling of mercury and a rare gas, and a pair of discharge electrodes (5), each arranged at a respective sealed end of said lamp envelope (col. 4, lines 45-61). Trushell further discloses a means for connecting the discharge electrodes to a source of electric potential outside of the lamp envelope (13), whereby during lamp operation a gas discharge is maintained between the discharge electrodes, which gas discharge emits ultraviolet radiation (col. 2, lines 42-56). Trushell also discloses a first light transmissive and ultraviolet radiation reflecting layer (16) disposed on the inner surface of the lamp envelope comprising a sintered aluminum oxide (col. 4, lines 56-61 & col. 6, lines 55-56) and a second layer of luminescent material disposed on the first layer (17).

25. Trushell does not expressly disclose a sintered mixture with an alkaline earth metal borate getter material or mixtures thereof, however Kaduk discloses a getter compound that comprises an alkaline earth metal compound (col. 2, lines 63-67). As discussed above in the 35 U.S.C. 103(a) rejection of claim 1, it would have been obvious at the time of invention for a person having ordinary skill in the art to use the alkaline earth metal getter, as taught by Kaduk, in the lamp disclosed by Trushell.

26. Neither Trushell nor Kaduk specifically teach a sintered mixture of reflective material and getter material. Kaduk teaches the application of the reflective layer and

Art Unit: 2879

then a sintering step (col. 2, lines 52-62), followed by the application of the getter material and phosphor material and a second sintering (col. 2 line 64 to col. 3, line 62). Trushell teaches that a sintering step may be done between applications of the various materials, or may be done after all of the materials have been applied to the inner surface of the lamp envelope (col. 6, lines 55-57). In the assembly of the lamp taught by Trushell, as modified by Kaduk, the number and ordering of sintering steps would be a matter of design choice. Thus, the aluminum oxide reflective material and getter material may be applied followed by a sintering, making a sintered mixture. Choosing to assemble the lamp in this manner would be obvious to one of ordinary skill in the art.

27. With regard to claim 12, Trushell teaches a reflective layer comprising a particulate aluminum oxide (col. 6, lines 19-22). When combining the getter compound taught by Kaduk with the reflective layer disclosed in Trushell it would have been obvious to a person of ordinary skill in the art to use the method taught by Kaduk to apply gettering material to a reflective layer. Kaduk teaches exposing the particulate aluminum oxide to the getter precursor material in an effective amount during lehring (col. 2, lines 63-67 & col. 3, lines 59-62). Kaduk further teaches that the getter layer is contiguous (col. 2, lines 43-45).

28. With regard to claim 13, Trushell and Kaduk both teach that the undercoat layer is sintered prior to the sealing of the envelope.

29. With regard to claim 14, it is old and well known in the art that borates of magnesium, calcium, strontium, barium, and mixtures thereof are effective getter compounds. Using this type of getter compound in the lamp taught by Trushell, as

modified by Kaduk, is considered to be a matter of design choice and would have been obvious to one of ordinary skill in the art.

30. Claim 15 recites the process of forming the sintered mixture, which is not germane to the patentability of the lamp itself. Therefore claim 6 has not been given patentable weight.

31. With regard to claim 16, claim 1 contains all of the limitations of claim 16 except for the limitation that the getter material is effective to react with contaminants present in the lamp to the extent that arc instability after ignition of the lamp is substantially eliminated. The lamp taught by Trushell, as modified by Kaduk, will have improved performance over the lamp taught by Trushell without a getter. As taught by the prior art, the getter was introduced with the intention of improving the lamp brightness, brightness maintenance, and brightness uniformity. The getter also inherently functions to cause other improvements in the lamp's performance, including substantially eliminating arc instability after ignition. Thus, the lamp taught by Trushell, as modified by Kaduk, discussed in the 35 U.S.C. 103(a) rejection of claim 1 above inherently meets this limitation. Therefore, claim 16 is rejected for the same reasons as claim 1.

32. With regard to claim 17, the range limitations regarding the weight of aluminum oxide and percentage weight of getter material are parameters related to the specific length and radial limitations of a given embodiment. The claim, however, does not recite any limitations for the dimensions of the contemplated embodiment. The length and radial dimensions of a particular embodiment are considered to be matters of design choice. Consequently the appropriate ranges for aluminum oxide weight and getter

Art Unit: 2879

material percentage are also considered to be matters of design choice. It would have been obvious for one with ordinary skill in the art to choose ranges for these parameters that are appropriate to the dimensions of the particular embodiment.

### ***Conclusion***

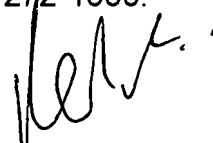
33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

34. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patel Nimesh can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

35. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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